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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,747	08/28/2003	Cynthia L. Ebner	D-43641-01	5716

7590 10/18/2007  
Howard Troffkin  
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EXAMINER
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HAIDER, SAIRA BANO

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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10/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/649,747

Applicant(s)

EBNER ET AL.

Examiner

Saira Haider

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,13,14 and 17-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-12,15 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicants have submitted that withdrawn claims 5, 8, 13, and 16 cover the elected species. Claims 8 and 16 are no longer withdrawn, as they include the elected species of the second prepolymer ( $P^b$ ): formed from caprolactone. However, claims 5 and 13 do not encompass the elected species of the first prepolymer ( $P^a$ ) - unit (a): tetrahydrophthalic anhydride, and thus remain withdrawn.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-4, 7-12, and 15-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "said block copolymer has a Tg of lower than about minus 20°C" has been recited in the claims to define the glass transition temperature of the block copolymer. However, applicants' specification does not describe or disclose this limitation. Firstly, applicants have failed to identify the portions of the specification which applicant believes discloses the above-mentioned subject matter. Secondly, a review of the specification reveals that applicants do have disclosure of the above-mentioned limitations. Applicants merely disclose: "low melting point" shall refer to polymers of a polymer segment composition of the present block copolymer having a Tg of lower than minus 20°C., such as lower than minus 30°C. (page 11, lines 13-15). This disclosure does not

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make clear that the block copolymer has the claimed glass transition temperature; rather it merely defines the scope of the term "low melting point." Further, applicants state on page 18 lines 24-25, that the prepolymer A ( $P^A$ ) has a low melting point and the prepolymer B ( $P^B$ ) can have a high melting point. Thus, it is clear that the block copolymer comprised of prepolymer A and B cannot have a "low melting point" (as defined by applicant), or cannot have a glass transition temperature of less than about minus 20°C. Lastly, Table 7 on page 47, discloses the glass transition temperatures of the block copolymer, wherein none of the Tg values are less than about minus 20°C, rather all of the values are significantly above minus 20°C. Accordingly, the claimed block copolymer, as exemplified, by applicant fails to have a glass transition temperature of less than about minus 20°C. In view of the foregoing, it is held that the newly added limitation, "said block copolymer has a Tg of lower than about minus 20°C," is not described in the specification, nor has applicant provided disclosure in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1, 2, 4, 9, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahill et al. (US 6,083,585).
6. Cahill discloses an oxygen scavenging composition comprising a condensation polymer (col. 5, line 65 to col. 6, line 11) and a transition metal compound (col. 19, lines 59-67). The polyester (first prepolymer) is formed via the reaction of cyclohexene containing polymer (Formula I) with a dihydroxy containing polymer (Formula II) (col. 7, lines 3-40). The polyester is reacted with an oligomer (second prepolymer) having terminal carboxylic acid groups (Formula III). The result is a

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copolycondensate (col. 12, lines 17-63), which is capable of absorbing oxygen and is used as layers in films, liners, cups, etc. (abstract).

7. Cahill fails to disclose that the block copolymer has a glass transition temperature of less than  $-20^{\circ}\text{C}$ . However, it is noted that Cahill discloses the glass transition temperatures of the inventive copolymer is typically about  $62^{\circ}\text{C}$ , which means that the copolymer can be made into or incorporated into packaging articles that have commercial oxygen scavenging capacity at ambient temperatures in the range of about  $0^{\circ}\text{C}$  to about  $60^{\circ}\text{C}$  (col. 4, lines 46-51). Wherein it is well known that ambient temperatures in various parts of the world can be as low as  $-6^{\circ}\text{F}$  ( $-21^{\circ}\text{C}$ ). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include certain copolymers in the copolycondensate of Cahill in order to lower the glass transition temperature, such that the glass transition temperature is about  $-21^{\circ}\text{C}$ , thus resulting in a greater range of temperature operations for the resulting product.

8. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahill in view of Matthews et al. (US 6,254,803).

9. Cahill fails to disclose the elected species of tetrahydrophthalic anhydride as component (a) of the first prepolymer. Thus, attention is directed towards the Matthews reference. Matthews discloses formation of an oxygen scavenger comprising polyester formed via the reaction of tetrahydrophthalic anhydride and a diol (thus corresponding to the claimed first prepolymer) (col. 5, lines 11-15). Wherein polyester of Matthews has a variety of advantages, including, producing low levels of volatiles of extractable products as a consequence of oxygen scavenging (abstract). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the polyester of Matthews (which is derived from tetrahydrophthalic anhydride) as the first prepolymer

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component in the invention of Cahill in order to form a copolycondensate which produces low levels of volatiles and extractable products a consequence of oxygen scavenging.

10. Claims 7, 8, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahill in view of Bezwada (US 5,133,739).

11. The disclosure of Cahill is provided above. Cahill fails to disclose that the second prepolymer is comprised of caprolactone. Thus attention is directed towards the Bezwada reference. Bezwada disclose that blocks of a copolymer of caprolactone and glycolide are considered "soft" blocks, which provide unexpectedly improved compliance (col. 3, lines 7-19). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to include in the oxygen scavenger composition of Cahill a block copolymer comprised of the caprolactone, as taught by Bezwada. The motivation would be to improve the mechanical properties of the oxygen scavenger composition of Cahill and create a composition with improved compliance. In reference to the molecular weight limitation, it would have been obvious to one of ordinary skill in the art at the time of the invention to ensure that that the caprolactone block copolymer of Bezwada has a molecular weight of greater than 1,000 to ensure that the resulting composition is viscous enough to readily form a film.

### ***Response to Arguments***

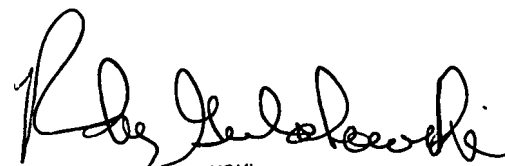
12. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Saira Haider  
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Art Unit 1796



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